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☐ 1: Vaccine. 1998 May-Jun;16(9-10):969-76.

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Biological and immunogenic properties of rabies virus glycoprotein expressed by canine herpesvirus vector.

Xuan X, Tuchiya K, Sato I, Nishikawa Y, Onoderaz Y, Takashima Y, Yamamoto A, Katsumata A, Iwata A, Ueda S, Mikami T, Otsuka H.

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In order to evaluate whether canine herpesvirus (CHV) could be used as a live vector for the expression of heterologous immunogenes, we constructed a recombinant canine herpesvirus (CHV) expressing glycoprotein (G protein) of rabies virus (RV). The gene of G protein was inserted within the thymidine kinase gene of CHV YP11mu strain under the control of the human cytomegalovirus immediate early promoter. The G protein expressed by the recombinant CHV was processed and transported to the cell surface as in RV infected cells, and showed the same biological activities such as low pH dependent cell fusion and hemadsorption. The antigenic authenticity of the recombinant G protein was confirmed by a panel of monoclonal antibodies specific for G protein. Dogs inoculated intranasally with the recombinant CHV produced higher titres of virus neutralizing antibodies against RV than those inoculated with a commercial, inactivated rabies vaccine. These results suggest that the CHV recombinant expressing G protein can be used as a vaccine to control canine rabies and that CHV may be useful as a vector to develop live recombinant against other infectious diseases in dogs.

PMID: 9682345 [PubMed - indexed for MEDLINE]

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